

COMPLIANCE AGREEMENT

OLIN CORPORATION

EUREKA INVESTMENT CORPORATION

SOUTHERN PACIFIC TRANSPORTATION COMPANY

NO SOLID WASTE REGISTRATION NUMBER

THIS COMPLIANCE AGREEMENT BETWEEN OLIN CORPORATION, EUREKA INVESTMENT CORPORATION AND SOUTHERN PACIFIC TRANSPORTATION COMPANY, HEREIN REFERRED TO AS THE COMPANIES, AND THE EXECUTIVE DIRECTOR OF THE TEXAS DEPARTMENT OF WATER RESOURCES (TDWR) REPRESENTS A DETERMINATION BY THE EXECUTIVE DIRECTOR THAT FORMAL ENFORCEMENT ACTION PERTAINING TO ALLEGED VIOLATIONS OF THE TEXAS SOLID WASTE DISPOSAL ACT, (TEX. REV. CIV. STAT. ANN., ART. 4477-7 (VERNON SUPP. 1984)) AS AMENDED, AND/OR CHAPTER 26 OF THE TEXAS WATER CODE, (TEX. WATER CODE ANN. (VERNON SUPP. 1984), AS AMENDED, WILL BE DELAYED AS LONG AS THE COMPANIES PROPERLY COMPLETE THE ACTS REQUIRED BY THIS AGREEMENT, IN ACCORDANCE WITH THE TERMS HEREIN, INCLUDING THE COMPLIANCE SCHEDULE OR AMENDED COMPLIANCE AGREEMENT. THIS AGREEMENT DOES NOT CONSTITUTE A WAIVER OR MODIFICATION OF ANY APPLICABLE REQUIREMENT OF THE TDWR. IF THE COMPANIES DO NOT COMPLY WITH ALL THE TERMS OF THIS AGREEMENT, THE TDWR MAY SEEK CIVIL PENALTIES AND OTHER RELIEF FOR ALL VIOLATIONS, INCLUDING THOSE THAT OCCURRED PRIOR TO THE EXECUTION OF THIS AGREEMENT. THE EXECUTION OF THIS AGREEMENT DOES NOT CONSTITUTE ANY ADMISSION OR ACCEPTANCE OF LIABILITY BY THE COMPANIES NOR DO THE COMPANIES ADMIT THAT THEY VIOLATED ANY STATUTE OF THE STATE OR RULES OF THE TDWR.

The terms and schedule of this Agreement are as follows:

I. North-South Ditch at Eastern Boundry of Olin/S. P. Oliver Site, Hous.

- A. Within 30 days of execution of this Agreement, the soils along the Houston Belt and Terminal right-of-way shall be removed in accordance with Items 1 and 2 of the attached Olin Remedial Action Plan.
- B. Within 30 days following removal of the soils, at least 12 soil samples shall be collected along the centerline of the ditch beginning 300' north of the northeast corner of the property extending southward at 150' increments. The samples shall be analyzed for pesticides including, at a minimum, BHC (lindane), DDD, DDE, DDT, dieldrine, toxaphene and pentachloronitrobenzene (PCNB) and the results of the analyses shall be submitted for TDWR review.
- C. Within 30 days following submission of the analytical data of Item I.B., a final scheduled cleanup/closure plan for the north-south ditch shall be submitted for TDWR review and approval. The plan shall be based on the analytical results of Item I.B. and if those results indicate further soil contamination, the plan shall provide for either 1) additional soil removal and backfilling, or 2) in-place closure of the remaining contaminated soils followed by deed recordation in accordance with 31 Texas Administrative Code Section 335.5.
- D. Within 30 days of TDWR approval of the proposed cleanup/closure plan of Item I.C., the plan shall be implemented in accordance with its schedule and specifications.

II. East-West Drainway at Northern Boundry of Olin/S. P. Oliver Site, Hous.

- A. Within 30 days of the execution of this agreement, the soils along the east-west drainway shall be removed in accordance with Item 3 of the attached Olin Remedial Action Plan.
- B. Within 30 days following removal of the soils, at least 5 soil samples shall be collected along the centerline of the drainway beginning at the northeast corner of the property extending westward at 100' increments. The samples shall be analyzed for the same pesticides listed in Item I.B. and the results of the analyses shall be submitted for TDWR review.

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- C. Within 30 days following submission of the analytical data of Item II.B., a final scheduled cleanup/closure plan for the east-west drainway shall be submitted for TDWR review and approval. The plan shall be based on the analytical results of Item II.B. and shall follow the same format as listed in Item I.C.
- D. Within 30 days of TDWR approval of the proposed cleanup/closure plan of Item II.C., the plan shall be implemented in accordance with its schedule and specifications.

III. Central North-South Drainage Ditch

- A. Within 60 days of execution of this Agreement, at least 6 sediment samples to a depth of 6" shall be collected along the centerline of the central ditch beginning at the north fenceline extending southward at 100' intervals. The samples shall be analyzed for the same pesticides listed in Item I.B. and the results of the analyses shall be submitted for TDWR review.
 - B. Within 30 days following submission of the analytical data Item III.A., a final scheduled cleanup/closure plan for the central ditch shall be submitted for TDWR review and approval. The plan shall be based on the analytical results of Item III.A. and shall follow the same format as listed in Item I.C.
 - C. Within 30 days of TDWR approval of the proposed cleanup/closure plan of Item III.B., the plan shall be implemented according to its schedule and specifications.
- IV. Completion of the acts required by this Compliance Agreement does not constitute a waiver of any additional requirement of the TDWR regarding remedying the contamination at the Olin/S. P. Oliver Site, including the completion of soil borings, additional soil removal, and ground water monitoring or recovery.
- V. This Agreement becomes effective upon the date of acceptance by the Companies and shall continue in effect until amended or cancelled by the Executive Director of the TDWR.

Approved this 28th day of May, 1985.

Charles E. Nemir
Charles E. Nemir, Executive Director
Texas Department of Water Resources

Approved this _____ day of _____, 1985.

Olin Corporation

Approved this _____ day of _____, 1985.

Eureka Investment Corporation

Approved this _____ day of _____, 1985.

Southern Pacific Transportation Company

DRAFT

REMEDIAL ACTION PLAN
WALLISVILLE ROAD SITE
HOUSTON, TEXAS

PURPOSE:

The purpose of this plan is to respond to the Environmental Protection Agency's request for a series of remedial measures that will eliminate any potential threat to public health and the environment that may be posed by the migration of residual contaminants from a former pesticide formulation facility.

REMEDIAL ACTION: (See Exhibit A)

The major portion of the property is covered by layers of asphalt, concrete or shell which effectively seal-off any contact between rainfall and runoff and residual contaminants in the soil. The character of the surface and immediate subsurface soils and the solubility of the contaminants are such that significant migration of contaminants with groundwater will not occur. The contaminants are not volatile and the same surfaces that prevent surface water contact prevent migration via the air.

This remedial plan provides for the removal of contaminated surface soils from the drainage courses to the north and east of the site and replacement with clean clays. It also provides for capping that portion of the site proper where the original soils are not covered. These measures assure that the site poses no threat to public health or the environment.

It is proposed to remove the contaminated surface soil from the drainways to the north and east of the site and replace it with clean clay. The drainway down the center of the site that is not now covered with concrete, asphalt or shell will be asphalted. The contaminated soil will be disposed of in a secure landfill in accordance with EPA and State regulations.

Specifically, the following actions are proposed:

1. Remove soil from the Houston Belt & Terminal Railway (hereinafter referred to as "Houston Belt") right-of-way consisting of a strip 12 feet wide and averaging 2.5 feet in depth extending from the northeast corner of the property 600 feet south and replace with clean compacted clay. The amount to be removed is approximately 670 cubic yards.
2. Remove soil from the remaining distance of about 500 feet south along the Houston Belt right-of-way consisting of a strip 12 feet wide and averaging 1.5 foot in depth and replace with clean compacted clay. Amount to be removed is approximately 335 cubic yards.
3. Remove soil from the drainway running east and west at the north boundary of the property for a distance of 400 feet west of the northeast corner of the property. The Houston Power and Light Company has an easement in this area. The soil removed will be a 400 foot strip 1.5 foot deep (average) and 8 feet wide which will be replaced with compacted clean clay. The amount to be removed is approximately 175 cubic yards.

4. Emplace a 2" asphalt topping on the unpaved 1,000 foot strip from north end of property on the western boundary of the Southern Pacific Railroad Company (hereinafter referred to as "Southern Pacific") property to the south end of the site. The strip average 15' in width. This would be approximately 1,600 sq. yards of surfacing.

In summary, it is proposed to remove approximately 1,200 cubic yards of soil extending well beyond the critical areas identified in the EPA survey and replace it with clean compacted clays. All removed soil will be disposed of in a secure and an approved landfill. The central drainway will be paved to prevent soil transport by erosion. These actions will remove the potential for and risk to public health or the environment from the residual contaminants at the site. The total cost of this plan is estimated to be \$132,450.00. The specific costs are as follows:

1180 yards @ 60.00 per yd. remove, dispose & replace	\$ 70,800.
1,667 sq. yds. @ \$10.50 2" asphalt surface	<u>17,500.</u>
	\$ 88,300.
Contingency, engineering 50%	<u>\$ 44,150.</u>
	<u>\$132,450.</u>

ENVIRONMENTAL RISK FACTORS:

The principal surface soil type at the Wallisville Road site is the Beaumont clay formation which is overlain locally by clays of low permeability. The significant groundwater sources of the area are in aquifers below the Beaumont clay formation. The low solubility of the contaminants, the low permeability of the surface soils and the impervious

nature of the Beaumont clay formation overlying the usable aquifers preclude any threat to public health or the environment through the migration of the residual contaminants from the site via groundwater movement.

The contaminants are non-volatile and with all contaminated residues covered by uncontaminated material in the form of hard surface or fill, the potential for contaminant migration via the air route is practically non-existent.

This plan calls for the removal or sealing (covering) of contaminated soil so that it is no longer exposed to surface waters (rain-fall runoff). These measures will also preclude inadvertent ingestion of contaminated soil at the site.

BACKGROUND AND SITE DESCRIPTION:

From 1950* to 1972 Olin operated a facility at 7621 Wallisville Road, Houston, at which among other operations various pesticides were formulated, packaged and shipped. When this facility was shutdown in 1972, the property consisting of about 18 acres was sold to Eureka Investment Company of El Campo (hereinafter referred to as "Eureka"). As part of the termination of Olin's operations, the Company cleaned up the plant area. Waste materials were disposed of both off-site and on site. (See Exhibit D).

Thereafter, the buildings were razed, the area graded and the property subdivided. Currently the southwest portion of the property consisting of about 5 acres is occupied by Mustang Tractor and Equipment Company (hereinafter referred to as "Mustang"). About 3.5 acres to the north of Mustang is being

*In 1950 Olin bought what was then a sulfur plant from Southern Acid and Sulfur Company. Olin started dry formulation of pesticides in 1950 and liquid pesticides in 1955. Exhibit B attached, lists the pesticides handled at this site by Olin. (See also Exhibit C).

leased by Mustang to Seatrain Pacific Services, Inc., (hereinafter referred to as "Seatrain"). The eastern portion of the property consisting of about 9 acres is owned by Southern Pacific which uses it as a parking lot for truck trailers. Exhibit E shows the relative location of the present occupants on the original 18 acres.

Olin submitted information relative to the on-site waste disposal in response to the Eckhardt survey and the Superfund reporting requirements. The EPA made an inspection of this site in December, 1980 as a follow-up of these submissions, and found evidence of pesticides on the Houston Belt right-of-way. Houston Belt hired Rollins Environmental Services, Inc., (hereinafter referred to as "Rollins") as a contractor who removed and disposed of several piles of contaminated material. In February, 1981, EPA conducted a more extensive sampling and analysis. EPA, Region VI, then submitted requests to Olin, Southern Pacific and Houston Belt for submission of "a comprehensive plan for clean up" of the site.

EPA SURVEYS:

Personnel from EPA, Region VI, conducted a preliminary survey in December, 1980 of the Houston Belt right-of-way. This revealed three or four small piles of material about 18 inches high and 3 to 4 feet in diameter containing toxaphene. They were located at the north end of the right-of-way just outside the east boundary of the property. EPA classified the apparent seriousness of the problem in their Site Inspection Report, dated December 19, 1980, as low.

During January, Rollins under contract to Houston Belt removed these piles of materials plus surface soil in the vicinity. The total amount of material removed was contained in seven 55 gallon drums.

During February, 1981, EPA, Region VI, conducted a subsequent sampling and analysis. In addition to Houston Belt right-of-way, EPA also sampled on property occupied by Southern Pacific, Mustang and Seatrain and also at several adjacent off-site locations.

Three pesticides were detected in a number of these areas. These were, in decreasing order of concentrations generally found, toxaphene, DDT and PCNB. Pesticide contamination also was found in the drainways bordering the north and east boundaries of the property. Sample points together with analytical results obtained by the EPA are shown in Exhibit F.

EXHIBIT A

REMEDIAL ACTION AREAS

WALLISVILLE ROAD SITE

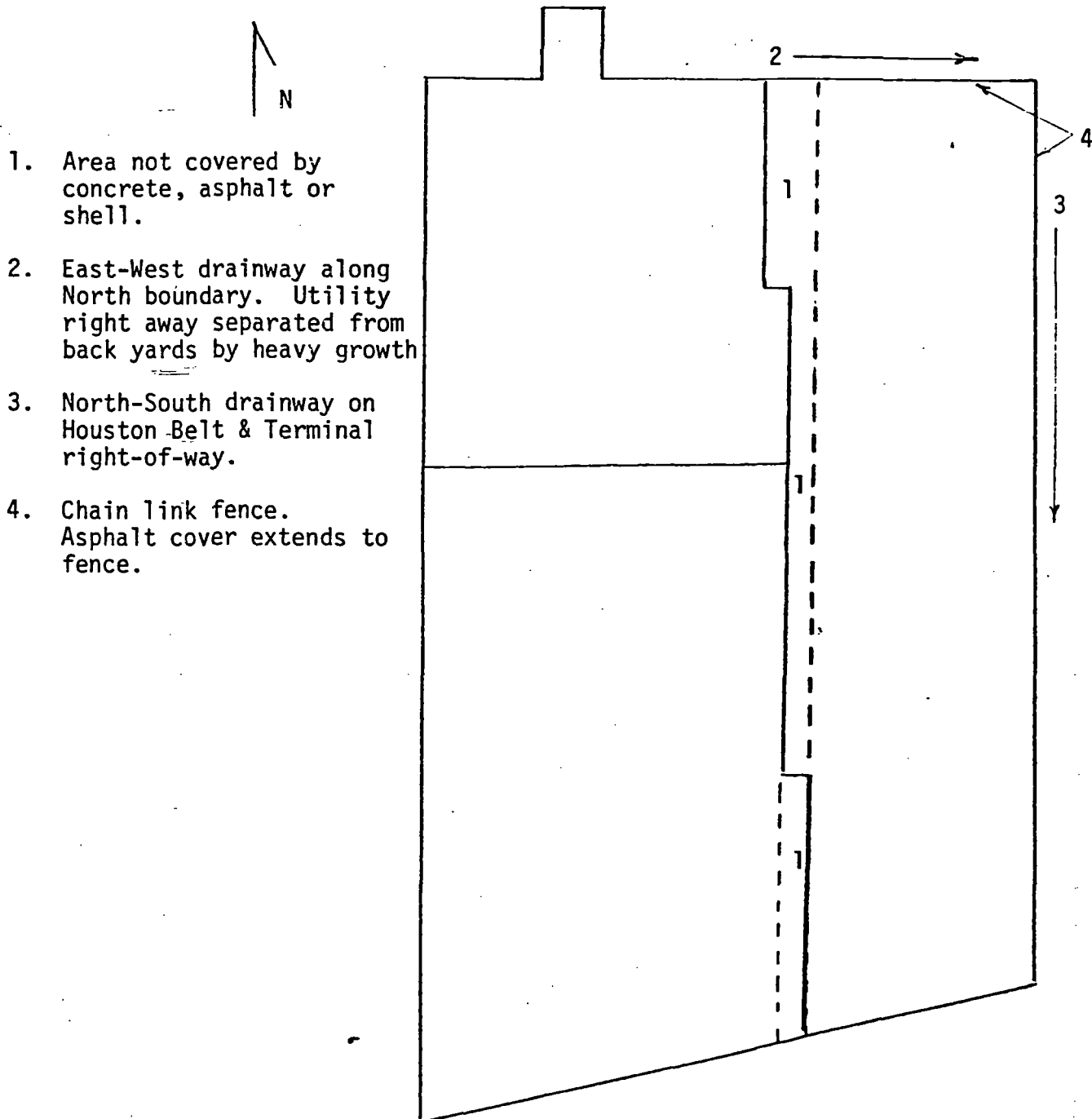


EXHIBIT B

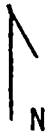
LIST OF PESTICIDES FORMULATED
BY OLIN AT WALLISVILLE ROAD SITE

BHC	Parathion
Dieldrin	methyl Parathion
Aldrin	Sevin
DDT	Endrin
DDD	Epichlorohydrin
Chlordane	Terraclor
Heptachlor	Terrazol
Toxaphene	Methoxychlor
Malathion	

EXHIBIT C

OLIN OPERATIONS

WALLISVILLE ROAD SITE



1. Former Olin lot - now Seatrain entrance.
2. Sulfur storage
3. Toxaphene tank
4. Dry products formulation
5. Change houses
6. Pump house & fire pond
7. Office
8. Storage
9. Liquid products formulation
10. Ramp
11. Railroad spur
12. Drainage
13. Chain-link fence

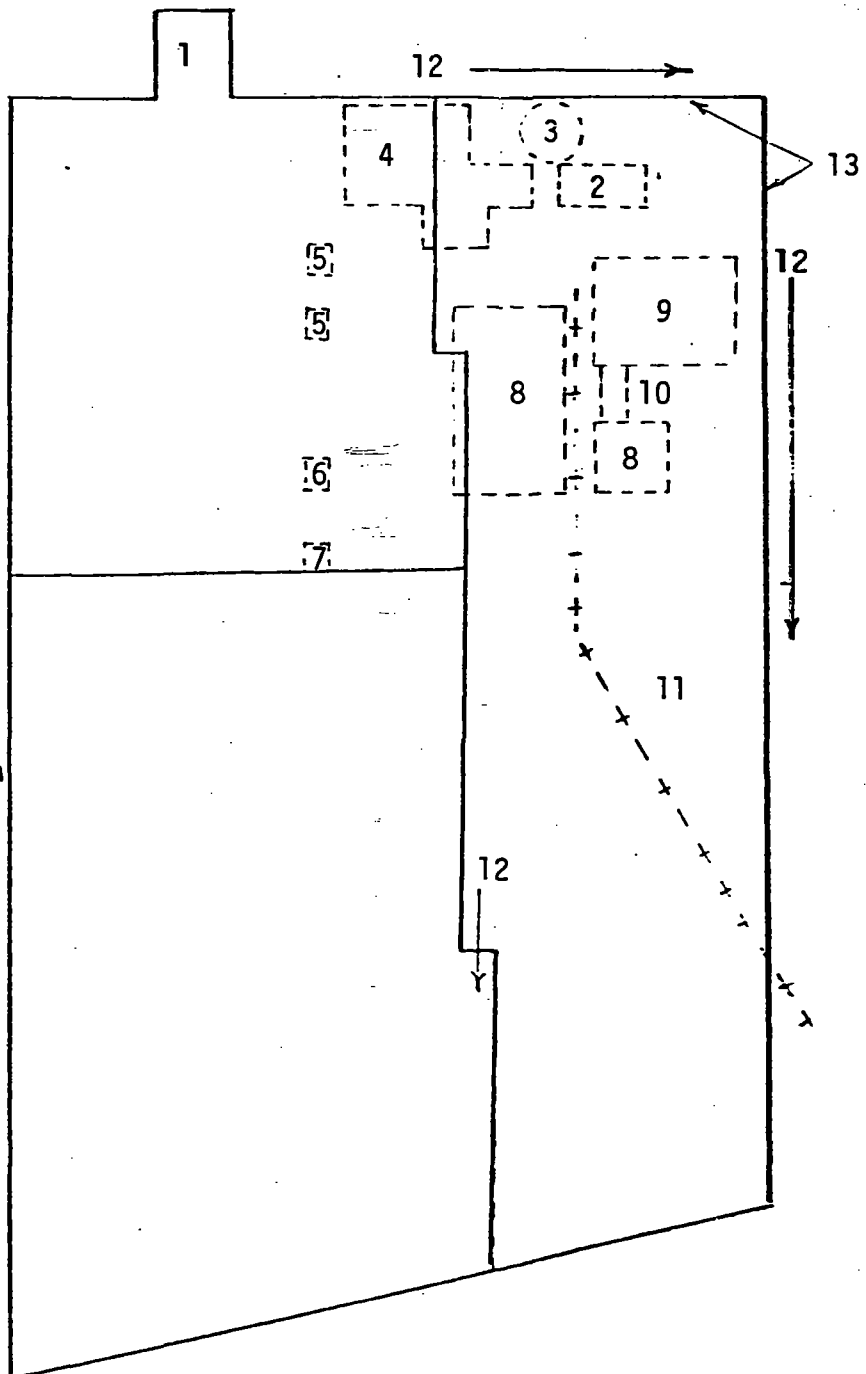


EXHIBIT D

DISPOSAL PITS

WALLISVILLE ROAD SITE

+ Disposal Pits
30' dia. X 6-8' deep

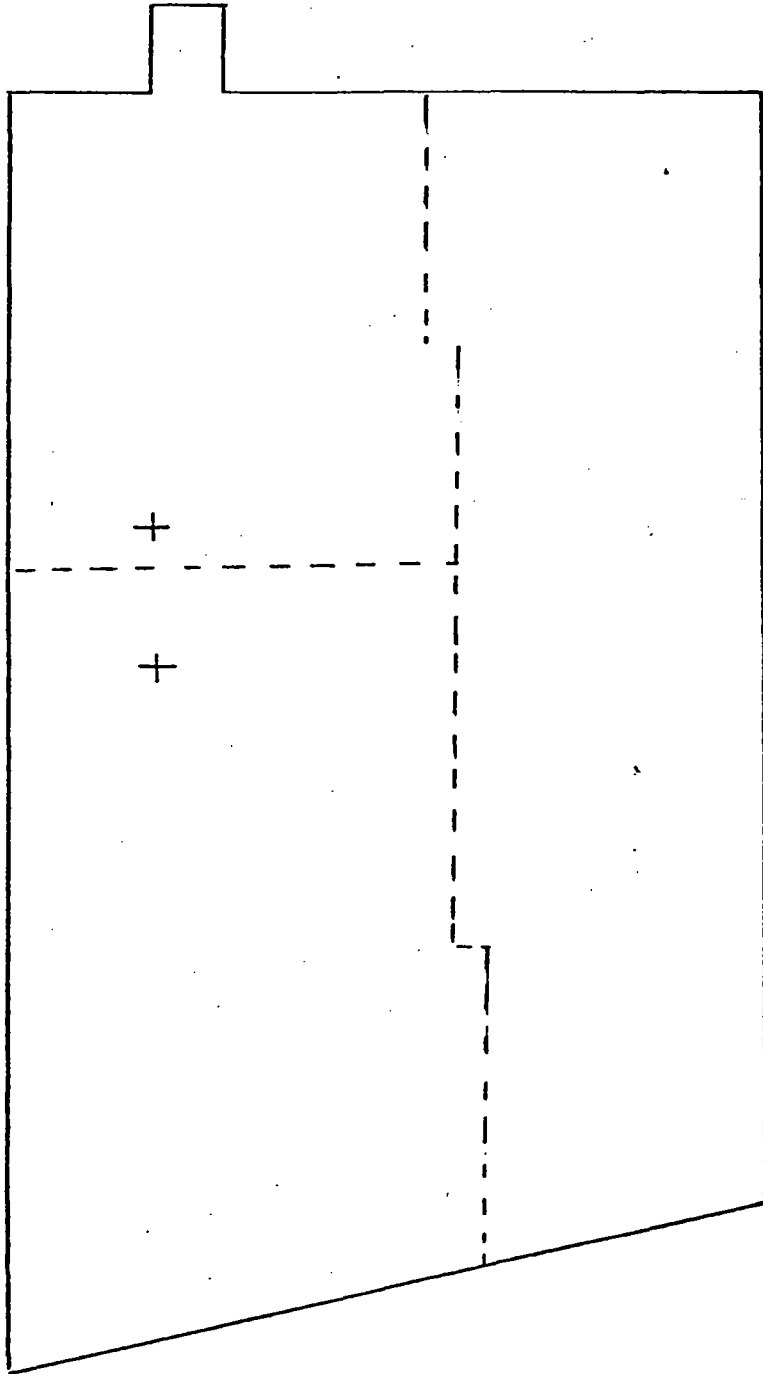
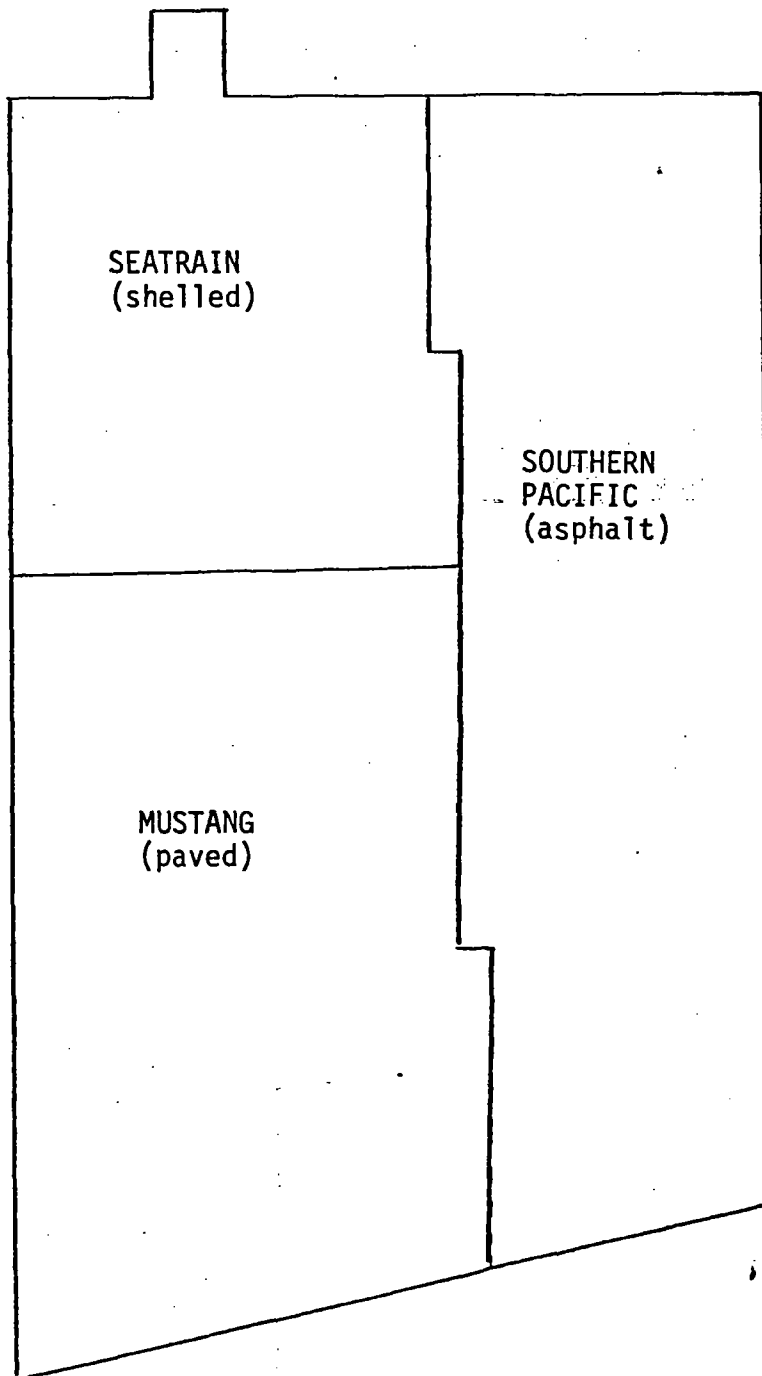


EXHIBIT E

PRESENT OCCUPANTS

WALLISVILLE ROAD SITE



SEATTLE AREA
SIT MAP

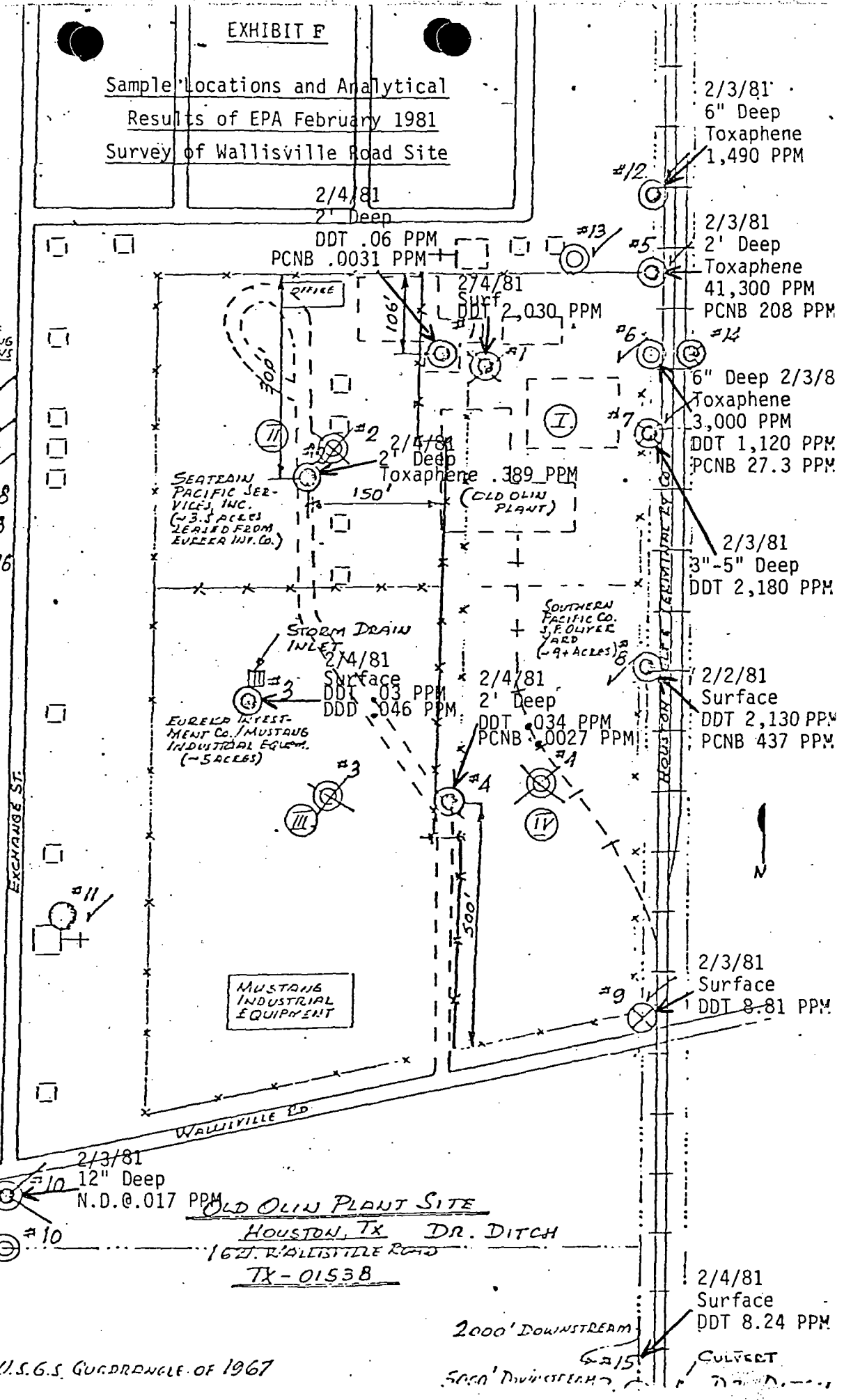
APPROXIMATE SCALE
1:2400

EXHIBIT F

Sample Locations and Analytical
Results of EPA February 1981
Survey of Wallisville Road Site

LEGEND:

SYMBOLS - DESCR.	No. of SAMPLING LOCATIONS
○ WATER SAMPLE (#11)	1
⊗ WATER & SEDIMENT SAMPLE (#3, 15, 15A, 15B)	3
⊙ WATER & SOIL (SURFACE & CORE)	1
⊙ SOIL SAMPLE (SURFACE & CORE) (#1, 2, 3, 4, 5, 8, 12, 14)	8
⊙ SOIL (CORE) (#6, 10, 13)	3
TOTAL	15/16



MAP ENLARGED FROM U.S.G.S. QUADRANGLE OF 1967